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Quality Engineering Test Report

SERIES: D-120 120W AC-DC DUAL OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A.D-120A +V1: 5V / 12A B.D-120B +V1: 5V / 6A
+V2:12V / 5A +V2:24V / 4A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:176~264VAC O/P:FULL LOAD	A:136VAC~267VAC	P
2	LINE REGULATION	I/P:176~264VAC SPEC: O/P:FULL LOAD A :+V1 :±0.5% +V2 :±1% B :+V1 :±0.5% +V2 :±1%	A: +V1: -0.12%~ -0.12% +V2: 0%~ +0.1% B: +V1: 0%~ 0% +V2: 0%~ +0.07%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A : +V1 : ±0.5% +V2 : ±5% B : +V1 : ±0.5% +V2 : ±6%	A: +V1: -0.24%~+0.12% +V2: -0.15%~+1.04% B: +V1: -0.12%~+0.12% +V2: 0.41%~+0.71%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A : +V1 : ±2% +V2 : ±6% B : +V1 : ±2% +V2 : ±7%	A: +V1: -0.12%~+0.26% +V2: -3.75%~+5.48% B: +V1: -0.26%~+0.12% +V2: -2.08%~+1.99%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A :+V1 :60mV +V2 :120mV B :+V1 :60mV +V2 :150mV	A: +V1: 38mV +V2: 51mV B: +V1: 28mV +V2: 72mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:1.25A O/P:FULL LOAD	A:1.22A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:35A O/P: FULL LOAD	A:31A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: O/P:MIN. LOAD A:+V1 -5%~+10% B:+V1 -5%~+10%	A: 4.48V~5.86V B: 4.38V~5.75V	P
9	SET UP TIME	I/P:230VAC SPEC:200mS O/P:FULL LOAD	A: 33mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:20mS O/P:FULL LOAD	A: 33mS	P
11	EFFICIENCY	I/P:230VAC SPEC: A:78% O/P:FULL LOAD B:80%	A:81.31% B:83.93%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC:105%~135% O/P:TESTING	A:126% B:127%	P
13	OVER VOLTAGE PROTECTION	I/P:230VAC SPEC:+V1:5.75~6.75V O/P:FULL LOAD	A :6.25V B :6.45V	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<3.5mA N-FG--<3.5mA	A: L-FG:2.03mA N-FG:2.01mA	P
15	INSULATION	SPEC: O/P-FG 500VDC/100M Ohms MIN. I/P-O/P 500VDC/100M Ohms MIN.	A: O/P-FG >100M Ohms I/P-O/P >100M Ohms	P

	RESISTANCE	I/P-FG 500VDC/100M Ohms MIN.	I/P-FG >100M Ohms	
16	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3KVDC/ 1 min. (10mA CUT-OFF) I/P - FG: 1.5KVDC/ 1 min. (10mA CUT-OFF) O/P - FG: 0.5KVDC/ 1 min. (10mA CUT-OFF)	A: I/P-O/P :0.002mA I/P-FG :0.002mA O/P-FG :0.002mA	P
17	EMS TEST	EFT TEST: EN50082-1 IEC1000-4-4	B: CRITERIA A OK	P
		SURGE TEST: EN50082-1 IEC1000-4-5	B: CRITERIA A OK	P

NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>18</td><td>BURN-IN TEST</td><td>I/P: 230VAC O/P:FULL LOAD
TA:27.2ºC BURN-IN DURATION : 1.5 hrs</td><td>NON BREAK</td><td>P</td></tr>
<tr><td>19</td><td>ENVIRONMENT TEST
(SAMPLE A:)</td><td>HIGH AMBIENT TEMPERATURE FULL LOAD TEST
I/P:230VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:53.4ºC</td><td>AFTER 13.5 hrs
NON BREAK</td><td>P</td></tr>
<tr><td>20</td><td>TEMPERATURE RISE TEST
T rise OF PARTS</td><td>A: I/P :230VAC AFTER 1.83 hr BURN-IN
O/P :FULL LOAD TA:27.2ºC
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>BD1</td><td>BRIDGE DIODE</td><td>74.9ºC</td><td>47.7ºC</td></tr>
<tr><td>Q2</td><td>MAIN TRANSISTOR</td><td>63.4ºC</td><td>36.2ºC</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER</td><td>75.3ºC</td><td>48.1ºC</td></tr>
<tr><td>D13</td><td>O/P DIODE</td><td>71.8ºC</td><td>44.6ºC</td></tr>
<tr><td>C34</td><td>O/P FILTER CAPACITOR</td><td>57.5ºC</td><td>30.3ºC</td></tr>
<tr><td>L1</td><td>O/P CHOCK</td><td>76.3ºC</td><td>49.1ºC</td></tr>
<tr><td>LF1</td><td>LINE FILTER TRANSFORMER</td><td>54.5ºC</td><td>27.3ºC</td></tr>
<tr><td>C6</td><td>I/P FILTER CAPACITOR</td><td>59.6ºC</td><td>32.4ºC</td></tr>
</table></td><td></td><td>P</td></tr>
<tr><td>21</td><td>LIFE CYCLE</td><td>A: SUPPOSE C34 IS THE MOST CRITICAL COMPONENT
I/P:230VAC O/P:FULL LOAD Ta:25ºC Tc34:55.3ºC Life: 188958 hrs
I/P:230VAC O/P:FULL LOAD Ta:50ºC Tc34:74.1ºC Life: 51337 hrs</td><td></td><td>P</td></tr>
<tr><td>22</td><td>CRITICAL COMPONENT RECORD
(FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">A: FUSE :4A/250V
BRIDGE DIODE :D3SB60
LINE FILTER :EE-25 TF096-R2
TRANSFOMER :ETD-34 TF277
POWER SWITCHER :2SC2625 TO-3P
OUTPUT DIODE :CTB34M TO-3P
OUTPUT CAPACITOR :ELNA 2200uF/16V RJH 105ºC
INPUT CAPACITOR :NITSLKO 330uF/200V 85ºC PN-J
P.C.B :D-120-R2 CEM-3 2 OZ SS</td></tr>
</table>

DATE	SAMPLE	TEST RESULT	TEST	APPROVAL
19980505	D-120A	PASS	H.C.LIOU	Max Lin
19990528	D-120B	PASS	H.C.LIOU	Max Lin

PREVIOUS